



ISPF at CNS

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The Interactive System Productivity Facility (ISPF) and the Program Development Facility (PDF) are available in TSO. This document briefly describes how to access ISPF/PDF in TSO and lists required ISPF data sets.

Related topics include data sets, files, CLISTs, EXECs, profiles, editor, and program development.

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Table of Contents

Introduction	3
ISPF/PDF	3
Starting ISPF	3
The ISPF Primary Option Menu	4
Basic Tasks in ISPF	7
Viewing a List of Data Sets	7
Allocating (Creating) a New Data Set	11
Editing a Data Set	16
Copying a Data Set	18
Renaming a Data Set	22
Deleting a Data Set	23
Managing Partitioned Data Sets (PDSs)	23
Creating a New Member in a Partitioned Data Set (PDS)	26
Deleting a Member from a PDS	27
Submitting a Job	27
IOF	28
ISPF Profiles and Associated Data Sets	28
ISPF and ISPF/PDF Data Sets	29
Documentation	29
Disclaimer	30

Introduction

ISPF/PDF is the Interactive System Productivity Facility/Program Development Facility. It provides a full-screen editor and data set manager that offer a menu-driven environment for working in TSO. It includes utilities, editing, browsing, and library control facilities. Because its menu-driven approach provides a more user-friendly interface to the TSO environment, much of your time in TSO will be spent working in and with ISPF/PDF.

For convenience sake, in this document we will often refer to ISPF/PDF as simply "ISPF."

This document describes how to access ISPF/PDF at CNS. It refers to other sources for detailed programming information. We recommend that you become familiar with the material presented in CNS document D0037, *TSO Introduction* [<http://docweb.cns.ufl.edu/docs/d0037/d0037.html>], prior to attempting to learn about ISPF/PDF. Since ISPF/PDF runs under TSO, and is used to perform TSO-specific tasks (such as allocating data sets), a basic understanding of TSO is an essential prerequisite to learning about ISPF/PDF.

ISPF/PDF

Some examples of the many things you can do through ISPF/PDF are:

- Create, edit, and delete data sets in TSO
- Browse data sets (that is, look but not modify)
- Enter TSO commands
- Move or copy members from one partitioned data set (PDS) to another
- Compare the contents of two data sets
- Execute programs
- Create your own panels, dialogs, and applications

The IBM manuals listed in the *General Information: CNS Software and Software References manual* (CNS document D0009) [<http://docweb.cns.ufl.edu/docs/d0040/d0040.html>] contain detailed information on how to use ISPF. In addition, ISPF contains an extensive built-in help system, available via the <F1> key. Pressing <F1> at any point in the ISPF environment will bring up help screens relevant to the panel being displayed. After reading the help panel, pressing <F3> returns you to the ISPF panel from which you invoked the help system.

Starting ISPF

To access ISPF, enter the following command, at the NERTSO READY prompt:

ISPF

The ISPF Primary Option Menu

Figure 1. The ISPF Primary Option Menu

```

Menu Utilities Compilers Options Status Help
-----nerdc-
ISPF Primary Option Menu
Option ==>

0 Settings      Terminal and user parameters      User ID . : USERID
1 View          Display source data or listings      Time. . . : 10:01
2 Edit          Create or change source data        Terminal. : 3278
3 Utilities      Perform utility functions           Screen. . : 1
4 Foreground     Interactive language processing      Language. : ENGLISH
5 Batch          Submit job for language processing     Appl ID . : ISR
6 Command        Enter TSO or Workstation commands      TSO logon : IKJACCNT
7 Dialog Test    Perform dialog testing               TSO prefix: U
8 LM Facility    Library administrator functions      System ID : NER1
9 IBM Products   IBM program development products     MUS acct. : -
10 SCLM          SW Configuration Library Manager     Release . : ISPF 4.5
11 Workplace     ISPF Object/Action Workplace
N NERDC          NERDC Installed Products

Enter X to Terminate using log/list defaults

F1=Help    F3=End    F4=Return  F5=Rfind   F6=Rchange F10=Left
F11=Right  F12=Cretriev

NUM 09:51:12 IBM-3278-2

```

This is the ISPF "main menu," from which you may select any of the many functions offered by ISPF. To select an item from this menu, enter the menu number (or letter) at the Option ==> prompt, and press <Enter>. For example, to enter the ISPF/PDF editor, type 2 and press <Enter>.

Submenus and Navigation

Many of the selections available from this menu take you to "submenus," with further items, which you also select in a similar fashion, i.e. by typing a menu number. Once you become familiar with ISPF, you may use shortcuts to bypass many of the menus, by entering selections for both the main menu and the submenu together. For example; main menu item number 3 is Utilities. On the Utilities submenu, the DSLIST (data set list) command (used to display a list of data set names) is selection number 4. Knowing this, you can jump directly to the DSLIST selection panel by entering 3.4 at the Option ==> prompt on the Primary Option Menu, which bypasses the second menu. In fact, you may use this technique from most ISPF panels, bypassing the main menu entirely, by prefixing your selection with = (the "equal" symbol). Thus, from (for example) the ISPF Edit panel, you could jump directly to the DSLIST command panel, by entering =3.4 at the command prompt.

On most ISPF panels, pressing <F3> will "move you back up one level" in the menu hierarchy--i.e. back toward the ISPF Primary Option Menu.

Exiting ISPF

From this panel, you may exit ISPF either by pressing <F3> or by typing the **X** command at the `Option ==>` prompt.

The Menu Selections--A Quick Overview

0 Settings

Selecting 0 (zero) will take you to the `ISPF Settings` panel, where you can configure various features and functions of ISPF/PDF, according to your needs and preferences. Help is available on a field-by-field basis on this panel; if you wish information about the purpose and valid values of a field, move your cursor to that field and press <F1>.

1 View

The `View` selection takes you to a panel where you may specify the name of a data set, and then read/browse it in "read-only" mode. Pressing <F1> on the `View Entry Panel` gives access to several pages of explanation on how to use this panel.

2 Edit

The `Edit` selection takes you to a panel where you may specify the name of a data set to edit. Pressing <F1> on the `Edit Entry Panel` gives access to several pages of explanation on how to use this panel, and how to use the ISPF editor. Additional information on using the ISPF editor may be found in CNS document D0089, *ISPF: Introduction to the ISPF Editor* [<http://docweb.cns.ufl.edu/docs/d0089/d0089.html>].

3 Utilities

The `Utilities` selection takes you to a panel offering a variety of important functions pertaining to the management of data sets. Available functions offered through this menu include creating (allocating), deleting, renaming, copying, and comparing data sets, as well as a variety of other useful tasks. Pressing <F1> on the `Utility Selection Panel` brings up a menu of help files pertaining to the various utilities, so that you may select the appropriate help file.

4 Foreground Processing

The `Foreground Processing` option provides for the execution of foreground processing programs such as the system compilers. For more information, select this option from the ISPF Primary Option Menu, and then press <F1>.

5 Batch

The batch processing option allows a program to be executed as a batch job. ISPF generates JCL for the job based on information you enter on the batch processing panels, and then submits the job for execution. For more information, select this option from the ISPF Primary Option Menu, and then press <F1>.

Note

This is NOT the only, or even the most common way of submitting batch jobs. As a general rule, you will simply type the TSO submit command to submit your batch job for execution, either from the TSO `READY` prompt, or from within ISPF. If you wish to type a TSO submit command from within ISPF, you type the command at any ISPF command prompt (`==>`), using the form:

```
==> tso submit 'data.set.name'
```

For more information on submitting batch jobs from TSO, see CNS document D0037, *TSO Introduction* [<http://docweb.cns.ufl.edu/docs/d0037/d0037.html>].

6 Command

This selection takes you to the ISPF Command shell, which allows TSO commands, CLISTS and REXX execs to be executed under ISPF. Pressing **<F1>** on the `ISPF Command Shell` panel gives access to several pages of detailed help on this function.

Note

ISPF allows TSO commands, CLISTS, and REXX execs to be entered in the command input field of any panel, as described under the section on item 5 Batch, above.

7 Dialog Test

This selection is provided as a platform for the testing of ISPF Dialog-based applications. You would have use for this only if you are involved in developing applications using ISPF Dialog Tag language, to be run by the ISPF Dialog Manager. This is an advanced feature, and is beyond the scope of this introductory overview. Most users are unlikely to have a need for this function. Pressing **<F1>** from the `Dialog Test Primary Option Panel` will bring up a series of help panels, explaining this feature in more detail.

8 LM (Library Management) Facility

The Library Management Facility allows you to track and control movement of members into controlled libraries and throughout library hierarchies. This is an advanced feature which is generally used by managers of large and complex software systems, and is beyond the scope of this introductory overview. Pressing **<F1>** from the `Library Management Utilities` panel will bring up a series of help panels, explaining this feature in more detail.

9 IBM Products

This menu item exists to provide a mechanism to add additional IBM products to the ISPF environment. No additional IBM products are currently available under ISPF at CNS.

10 SCLM - Software Configuration Library Manager

SCLM supports program development, system build operations, and project maintenance. This is an advanced feature which is generally used by managers of large and complex software

systems, and is beyond the scope of this introductory overview. Pressing <F1> from the SCLM Main Menu panel will bring up a series of help panels, explaining this feature in more detail.

11 Workplace

The ISPF Workplace is an *object/action* interface to most ISPF functions. The basic concept of object/action is to input an object (ISPF library, data set name, DSLIST level) and then select an action to perform on the object. This option essentially makes ISPF services available in a somewhat more "menu-driven" environment, which may be desirable for some users. Pressing <F1> from the ISPF Workplace panel will bring up a series of help panels, explaining this feature in more detail.

N CNS

This menu item provides access to several programs and utilities which CNS has installed under TSO which you may find useful.

Basic Tasks in ISPF

Viewing a List of Data Sets

ISPF provides an easy way to view a list of data sets, grouping them based on the higher-level qualifiers of their names.

z/OS (OS/390) data set names are generally of the form

something1.something2.something3...

or

something1.something2.something3...(whichthing)

up to a maximum of 44 characters (total, including the "." characters, *but not* including the member name of a PDS member [see "Managing Partitioned Data Sets", below]). For a more complete discussion of z/OS (OS/390) data set naming rules, please refer to CNS document D0037, *TSO Introduction* [<http://docweb.cns.ufl.edu/docs/d0037/d0037.html>].

Note that, at any point along the line in the following instructions, pressing <F3> will cancel the current panel, and back you up to the previous panel.

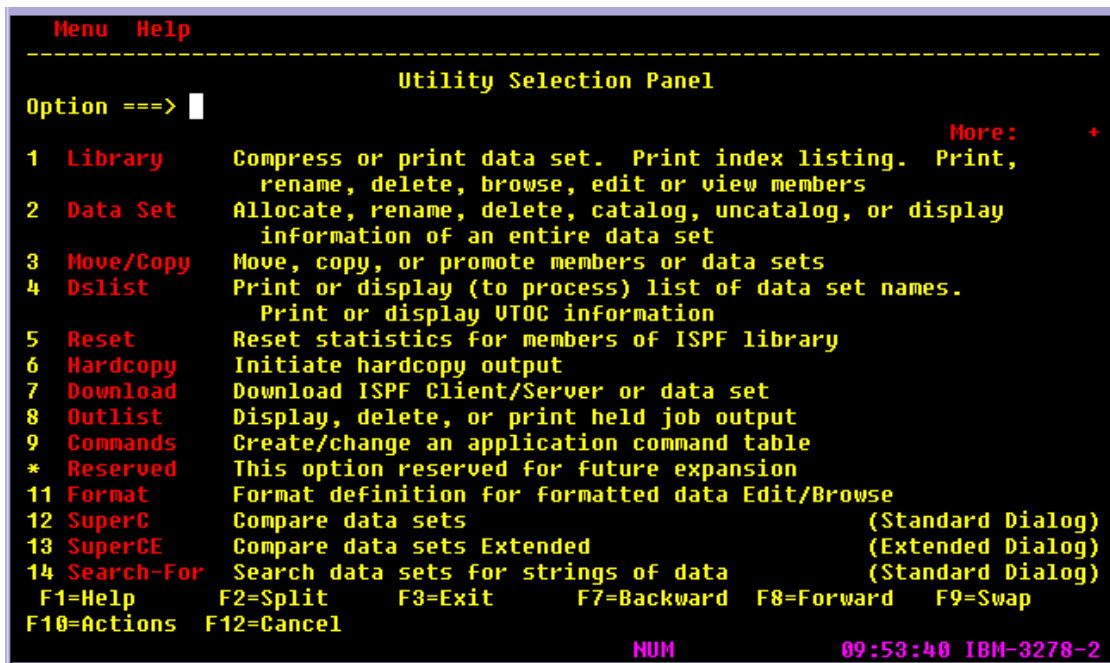
ISPF allows you to view a list of all data sets whose names begin with a common qualifier or series of qualifiers. For example; you may request a list of all data sets whose names begin with 'something1'; or a list of all whose names begin with 'something1.something2'; and so on.

All of your data sets will probably have the same two first-and-second level qualifiers. Your data sets' first-level qualifier will generally be either 'U' or 'UF', unless your office or department has another convention (ask your supervisor or computer support staff). Your data sets' second-level qualifier will almost certainly be your userid. So, to get a list of all your data

sets, you need to ask for all (for example) 'UF.userid' data sets.

ISPF panel 3.4, Data Set List Utility (Dslist), allows you to request a list of data sets, according to their higher-level qualifiers. To access the Dslist utility, select 3 Utilities from the ISPF Primary Option Menu and press <Enter>. You will then see the Utility Selection Panel. (Or, you may bypass the Utility Selection Panel by entering 3.4 on the ISPF Primary Option Menu.)

Figure 2. The ISPF Utility Selection Panel



Select 4 from the Utility Selection Panel (figure 2, above) and press <Enter>, to go to the Data Set List Utility (figure 3, below).

Figure 3. ISPF Data Set List Utility


```

Menu  RefList  RefMode  Utilities  Help
-----
                                Data Set List Utility
Option ==>

    blank Display data set list          P Print data set list
      U Display UTOC information          PU Print UTOC information

Enter one or both of the parameters below:
Dsname Level . . . UF.USERID
Volume serial . .

Data set list options
Initial View . . . 3  1. Volume          Enter "/" to select option
                     2. Space           / Confirm Data Set Delete
                     3. Attrib          / Confirm Member Delete
                     4. Total

When the data set list is displayed, enter either:
"/" on the data set list command field for the command prompt pop-up,
an ISPF line command, the name of a TSO command, CLIST, or REXX exec, or
"" to execute the previous command.
F1=Help    F2=Split    F3=Exit    F7=Backward  F8=Forward  F9=Swap
F10=Actions F12=Cancel

                                NUM          09:58:08 IBM-3278-2

```

Enter into the Dsname Level . . . field (as shown above) the series of high-level qualifiers which specify the group of data sets which you wish to see listed. Press <Enter>, and ISPF will display the list of data sets requested. Specifying the complete data set name will give you a "list" of just that one data set.

Note: It's best to specify as many qualifier levels as you can, so as to narrow the "search" as much as possible. This will reduce the amount of computer (CPU) time required to process your request, and therefore will result in a smaller charge to your account. Specifying just "U" or just "UF" would result in a very long, time-consuming, and expensive listing.

Figure 4. DSLIST Display

```

Menu Options View Utilities Compilers Help
-----
DSLST - Data Sets Matching UF.USERID
Command ==>
Row 1 of 3
Scroll ==> PAGE

Command - Enter "/" to select action
-----
UF.USERID.CLIST      P0      UB      255      6120
UF.USERID.ISPFPROF   P0      FB      80      3120
UF.USERID.WORK       P0      FB      80      13680
***** End of Data Set list *****

F1=Help  F2=Split  F3=Exit  F5=Rfind  F7=Up  F8=Down  F9=Swap
F10=Left F11=Right F12=Cancel

NUM 10:16:11 IBM-3278-2

```

From the above list of data sets, you may select a data set by typing a "/" next to the name of the data set, in the Command column at the far left side of the listing. Then press <Enter> to view the Data Set List Actions menu below (figure 5).

Figure 5. Data Set List Actions menu

```

Menu Options View Utilities Compilers Help
-----
D Data Set List Actions Row 1 of 3
C ==> PAGE
C Data Set: UF.USERID.WORK recl Blksz
- DSLIST Action -----
  1. Edit 12. Compress 255 6120
  2. View 13. Free 80 3120
/ 3. Browse 14. Print Index 80 13680
* 4. Member List *****
  5. Delete 16. Move
  6. Rename 17. Copy
  7. Info 18. Refadd
  8. Short Info 19. Exclude
  9. Print 20. Unexclude 'NX'
 10. Catalog 21. Unexclude first 'NXF'
 11. Uncatalog 22. Unexclude last 'NXL'

Select a choice and press ENTER to process data set action.
F1=Help F2=Split F3=Exit F7=Backward
F8=Forward F9=Swap F12=Cancel

-----
9=Swap
F10=Left F11=Right F12=Cancel
NUM 10:22:47 IBM-3278-2

```

By typing the appropriate menu selection number and pressing <Enter>, you may perform any

of the indicated actions on the selected data set.

This provides a convenient, menu-oriented environment in which to perform many common tasks. It can be simplified even further by the creation of a permanent ISPF profile; if you have a permanent ISPF profile, then ISPF will remember the qualifiers you typed into the `Data Set List Utility` panel (figure 3), and will automatically "re-enter" them for you in the future (until you change them by typing something different). See the section of this document titled "ISPF Profiles and Associated Data Sets" (below) for more information on ISPF profiles.

Allocating (Creating) a New Data Set

One of z/OS's (OS/390) (TSO's) distinctive characteristics (as opposed to other computer systems you may have used) is the requirement to *allocate* a data set before you can actually save any data into it. Allocating a data set basically involves declaring its existence to the system, including various attributes such as its size, format, and the organization of the data within it. These are issues handled automatically by systems such as MS-Windows and MacOS, consequently this process may be entirely new to you. However, it is required by z/OS (OS/390), and you will almost certainly need to allocate some data sets of your own, especially in the beginning, as you set up the data sets you will be using routinely in the future.

Using an Old Data Set as a Model

The easiest way to allocate a new data set is to start by looking at an existing data set which is similar to the one you wish to create. The "old" data set does not have to belong to your userid. If your supervisor, a co-worker, or consultant can tell you the name of a data set having the appropriate attributes, you can use ISPF's panel 3.2, `Data Set Utility` to display the characteristics of that data set.

To get to the `Data Set Utility` panel, starting from the `ISPF Primary Option Menu` (figure 1), select menu item `3 Utilities`, then from the `Utility Selection Panel` (figure 2), select menu item `2 Data Set`. Alternatively, you could simply enter `3.2` from the `ISPF Primary Option Menu`, to skip the `Utility Selection Panel`. In either case, you will arrive at the `Data Set Utility` panel, as shown below (figure 6).

Figure 6. Data Set Utility panel (View data set information)

```
Menu RefList Utilities Help
-----
                                Data Set Utility
Option ==>

    A Allocate new data set          C Catalog data set
    R Rename entire data set        U Uncatalog data set
    D Delete entire data set        S Short data set information
blank Data set information          U USAM Utilities

ISPF Library:
Project . . .
Group . . .
Type . . . .

Other Partitioned, Sequential or VSAM Data Set:
Data Set Name . . . 'uf.helper.filename'
Volume Serial . . . (If not cataloged, required for option "C")

Data Set Password . . (If password protected)

F1=Help    F2=Split    F3=Exit    F7=Backward  F8=Forward  F9=Swap
F10=Actions F12=Cancel

                                NUM                                13:05:45 IBM-3278-2
```

In the example above, we show the user has entered a data set name, `uf.helper.filename`, in the Data Set Name field, under the Other Partitioned, Sequential or VSAM Data Set: section of the panel, and left the Option ==> field blank. If you read the menu of options (under the Option ==> field), you will see that "blank" is the command for obtaining Data set information. Note that the data set name is entered in 'single quotes'. Make sure that you include the 'single quotes' when you enter a data set name in this field. Press <Enter> after entering the data set name, to view the Data Set Information panel (figure 7).

Figure 7. Data Set Information

```

                                Data Set Information
Command ==>

Data Set Name . . . : UF.HELPER.FILENAME

General Data                                Current Allocation
Volume serial . . . : SYS903                Allocated blocks . : 24
Device type . . . . : 3390                  Allocated extents . : 1
Organization . . . . : P0                   Maximum dir. blocks : 5
Record format . . . . : VB
Record length . . . . : 255
Block size . . . . . : 6120
1st extent blocks . . : 24
Secondary blocks . . . : 24

Current Utilization
Creation date . . . . : 2000/05/26          Used blocks . . . . : 2
Referenced date . . . : ***None***          Used extents . . . . : 1
Expiration date . . . : ***None***          Used dir. blocks . . : 1
                                           Number of members . : 0

F1=Help      F2=Split      F3=Exit      F7=Backward  F8=Forward  F9=Swap
F12=Cancel

NUM 14:07:17 IBM-3278-2

```

Now; to allocate a data set similar to this one, press <F3>, which will return you to the Data Set Utility panel.

Figure 8. Data Set Utility panel (allocate new data set)

```

Menu RefList Utilities Help
-----
                                Data Set Utility
Option ==> a

  A Allocate new data set                    C Catalog data set
  R Rename entire data set                  U Uncatalog data set
  D Delete entire data set                  S Short data set information
blank Data set information                  U USAM Utilities

ISPF Library:
Project . .
Group . . .
Type . . .

Other Partitioned, Sequential or USAM Data Set:
Data Set Name . . . 'UF.userid.myfile'
Volume Serial . . . (If not cataloged, required for option "C")

Data Set Password . . (If password protected)

F1=Help      F2=Split      F3=Exit      F7=Backward  F8=Forward  F9=Swap
F10=Actions  F12=Cancel

NUM 14:19:33 IBM-3278-2

```

Type over the "old" data set name, replacing it with the name you wish to give the data set you are about to allocate. Also, enter an "a" (without quotes) in the Option ==> command

field, indicating that you want to Allocate a new data set. Then press <Enter>.

Figure 9. Allocate New Data Set panel

```

Menu  RefList  Utilities  Help
-----
                          Allocate New Data Set

Command ==>

Data Set Name   . . . : UF.USERID.MYFILE

Management class . . . █          (Blank for default management class)
Storage class   . . .           (Blank for default storage class)
Volume serial    . . . : SYS903   (Blank for system default volume) **
Device type      . . .           (Generic unit or device address) **
Data class       . . .           (Blank for default data class)
Space units      . . . : BLOCK    (BLKS, TRKS, CYLS, KB, MB, BYTES
                                   or RECORDS)
Average record unit (M, K, or U)
Primary quantity . . 24          (In above units)
Secondary quantity . 24          (In above units)
Directory blocks  . . 5          (Zero for sequential data set) *
Record format     . . . UB
Record length     . . . 255
Block size        . . . 6120
Data set name type : PDS         (LIBRARY, HFS, PDS, or blank) *
F1=Help   F2=Split   F3=Exit   F7=Backward F8=Forward F9=Swap
F10=Actions F12=Cancel

NUM 14:36:54 IBM-3278-2

```

Now you see the Allocate New Data Set panel (figure 9). This panel is almost identical to the Data Set Information panel you saw earlier (figure 7); the main difference is that you can update the various parameters displayed, preparatory to actually allocating the data set. Make any changes you wish to the values shown, and then press <Enter> to allocate the data set. ISPF returns you to the Data Set Utility panel.

Figure 10. Data Set Utility panel (confirmation)

```

Menu  RefList  Utilities  Help
-----
Option ==> 

Data Set Utility                                Data set allocated

A Allocate new data set                        C Catalog data set
R Rename entire data set                      U Uncatalog data set
D Delete entire data set                      S Short data set information
blank Data set information                    U USAM Utilities

ISPF Library:
Project . . .
Group . . .
Type . . .

Other Partitioned, Sequential or USAM Data Set:
Data Set Name . . . 'UF.USERID.MVFILE'
Volume Serial . . . (If not cataloged, required for option "C")

Data Set Password . . (If password protected)

F1=Help    F2=Split    F3=Exit    F7=Backward  F8=Forward  F9=Swap
F10=Actions F12=Cancel

NUM 14:42:58 IBM-3278-2

```

Note the message `Data set allocated` toward the upper-right corner of this panel (figure 10). This is ISPF's confirmation to you that the data set has, in fact, been allocated, as you requested.

Creating a New Data Set "From Scratch"

Although it is unlikely, it may be that you are unable to locate an existing data set having the qualities and attributes you need for your new data set. If this happens, you will need to create your new data set "from scratch."

The determination of the best parameters for a new data set can be a complex process. In general, you are best advised to consult with your departmental or college computing support staff, the UF Computing Help Desk (392-HELP, <http://helpdesk.circa.ufl.edu/> <helpdesk@ufl.edu [mailto:helpdesk@ufl.edu]>), or the CNS Support Desk (392-2061, http://www.cns.ufl.edu/info-services/support/support_desk.html) <consult@lists.ufl.edu [mailto:consult@lists.ufl.edu]>. Here, we will just note a few general guidelines, to help you discuss your needs with your consultant.

- Determine whether you need a single "file" (Physical Sequential--"PS") or a multi-membered Partitioned Data Set (PDS). If the data set to be created will be "one big thing," then you are probably thinking of a PS data set. If you need a "library" or "collection" of things, then you may find that a PDS better suits your needs.
- Attempt to make a realistic guess about the size of the data set--how big will it be to start, and how big (and how fast) is it likely to grow?
- Be aware of what kind of information your new data set will contain: will it be program code? Regular text? Binary data? Or, maybe, a collection of data records--perhaps using plain text characters, but intended to be processed by a program?

- How long will each "record" or "line" in the data set be? Will every line be the same length (Fixed)? Or will some lines be longer and others shorter (Variable)?

The answers to all of these questions are important, and your knowing them (or at least having given them some thought) in advance will be of considerable help to your consultant.

If you can answer all of the above questions, you may be able to allocate your own new data sets using ISPF panel 3.2, Data Set Utility. The following pieces of information will be of use if you wish to allocate your own data sets.

- A utility is provided in NERTSO to help you choose an appropriate blocksize for your data set. Type the command **blksize** at the TSO READY prompt, and follow the prompts to see a table of appropriate block sizes.
- If you are allocating a PDS, you should bear in mind that you should specify one directory block for (approximately) each 6 members which you anticipate you will create in the PDS.
- Data sets intended to contain executable program code (especially JCL), must have a fixed logical record length of 80 characters. No other format data set will be accepted by the Job Entry Subsystem (JES2) for execution.

For more detailed information, see CNS document D0045, *OS/390 Disk Data Sets at CNS* [<http://docweb.cns.ufl.edu/docs/d0045/d0045.html>].

Cataloging Data Sets

When you allocate a new data set using ISPF, ISPF will also catalog the data set, provided that the data set name is a valid catalog entry. For more information on Cataloging Data Sets, see the section "Cataloging Data Sets" in CNS document D0037, *TSO Introduction* [<http://docweb.cns.ufl.edu/docs/d0037/d0037.html>], and the section "Cataloged Data Sets" in CNS document D0045, *z/OS (OS/390) Disk Data Sets at CNS* [<http://docweb.cns.ufl.edu/docs/d0045/d0045.html>].

Editing a Data Set

ISPF includes a powerful and flexible editor, which is well-integrated into the whole ISPF system. This document will not go into details on how to use the ISPF editor; in this overview, we will only show how to access the editor, and, in a general way, how it is used to create and update data sets. For details on how to use the ISPF Editor, see CNS document D0089, *ISPF: Introduction to the ISPF Editor* [<http://docweb.cns.ufl.edu/docs/d0089/d0089.html>].

To edit an existing data set (or PDS member), start from the ISPF Edit Entry Panel (figure 11, below). This is reached by selecting menu item 2 from the ISPF Primary Option Menu panel (refer to figure 1, above). Specify the name of an existing data set (or PDS member) using either the Other Partitioned, Sequential or VSAM Data Set: fields, as shown in figure 11, below or the ISPF Library: fields, as shown in figure 19 in the section "Managing Partitioned Data Sets (PDSs), below.

Figure 11. Edit Other Partitioned, Sequential or VSAM Data Set

```

Menu  RefList  RefMode  Utilities  LMF  Workstation  Help
-----
                                Edit Entry Panel
Command ==>

ISPF Library:
  Project . . .
  Group . . .
  Type . . .
  Member . . . (Blank or pattern for member selection list)

Other Partitioned, Sequential or VSAM Data Set:
  Data Set Name . . . 'uf.userid.myfile'
  Volume Serial . . . (If not cataloged)

Workstation File:
  File Name . . .

Initial Macro . . .
Profile Name . . .
Format Name . . .
Data Set Password . .
F1=Help      F2=Split    F3=Exit
F10=Actions  F12=Cancel

Options
/ Confirm Cancel/Move/Replace
Mixed Mode
Edit on Workstation
Preserve VB record length
F7=Backward  F8=Forward  F9=Swap
NUM                                09:48:40 IBM-3278-2

```

Note: As a general rule, you will only use the ISPF Library: fields to specify a PDS having a name of the form *toplevel.userid.PDSname(member)*. To specify a data set name of any other form (including all non-PDS data sets), you will need to use the Other Partitioned, Sequential or VSAM Data Set: field. Be sure to include the 'single quotes' as shown in figure 19 (above) when specifying a data set name using the Other Partitioned, Sequential or VSAM Data Set: field.

Once you enter the data set name in the appropriate field, and press <Enter>, you will be taken to the ISPF Editor, with the specified data set opened for editing, as shown in figure 12, below.

Figure 12. Editing an Existing Data Set

```

EDIT          UF.USERID.MYFILE                      Columns 00001 00072
Command ==>                                         Scroll ==> PAGE
***** ***** Top of Data *****
==MSG> -CAUTION- Profile changed to NUMBER OFF (from NUMBER ON STD).
==MSG>      Data does not have valid standard numbers.
000001 Note: As a general rule, you will only use the ISPF Library: fields to
000002 specify a PDS having a name of the form toplevel.userid.PDSname(member).
000003 To specify a data set name of any other form (including all non-PDS data
000004 sets), you will need to use the Other Partitioned, Sequential or USAM
000005 Data Set: field. Be sure to include the 'single quotes' as shown in
000006 figure 13 (above) when specifying a data set name using the Other
000007 Partitioned, Sequential or USAM Data Set: field.
000008
000009 Once you enter the data set name in the appropriate field, and press
000010 <Enter>, you will be taken to the ISPF Editor, with the specified
000011 data set opened for editing, as shown in figure 14, below.
***** ***** Bottom of Data *****

F1=Help      F2=Split      F3=Exit      F5=Rfind      F6=Rchange      F7=Up
F8=Down      F9=Swap       F10=Left     F11=Right     F12=Cancel
NUM                                     11:44:37 IBM-3278-2

```

Note the two-line `==MSG>` at the top of the screen; this is just a notification from ISPF that, although this user's profile calls for the automatic inclusion of line numbers in all data sets, this data set clearly has no line numbers, and therefore, ISPF is switching away from the default behavior specified by the profile. The message is not referring to the line numbers at the left side of the screen. These are actually ISPF Editor line-command entry fields, and are displayed for reference purposes to aid in navigation through the data set. They are not part of the data set, and are not stored with it when it is saved.

Make any desired changes to the data set, and then save it by entering the command **save** at the `Command ==>` prompt at the top of the screen. Press `<F3>` after saving, to exit the editor.

For details on how to use the ISPF Editor, see CNS document D0089, *ISPF: Introduction to the ISPF Editor* [<http://docweb.cns.ufl.edu/docs/d0089/d0089.html>].

Copying a Data Set

ISPF provides a straightforward "fill in the blanks" method for copying data sets. Panel 3.3 is the Move/Copy Utility display. This may be accessed by selecting menu item 3 Utilities from the ISPF Primary Option Menu panel (refer to figure 1, above). That takes you to the Utility Selection Panel (refer to figure 2, above). From the Utility Selection Panel, select item 3 Move/Copy (as usual, you may skip directly to the desired panel by entering the 2 selections together as 3.3, from the ISPF Primary Option Panel, or as **=3.3** from any other ISPF panel). You will then see the Move/Copy Utility display, as shown in figure 13, below.

Figure 13. Move/Copy Utility Panel: Copy From...

```

Menu  RefList  Utilities  Help
-----
                                Move/Copy Utility                                Data set copied
Option ==> c                                                                More:  +

C  Copy data set or member(s)          CP Copy and print
M  Move data set or member(s)          MP Move and print
L  Copy and LMF lock member(s)         LP Copy, LMF lock, and print
P  LMF Promote data set or member(s)   PP LMF Promote and print

Specify "From" Data Set below, then press Enter key

From ISPF Library:
Project . . .          (--- Options C, CP, L, and LP only ---)
Group  . . .          . . .          . . .          . . .
Type   . . .
Member . . .          (Blank or pattern for member list,
                        "*" for all members)

From Other Partitioned or Sequential Data Set:
Data Set Name . . . 'uf.userid.myfile'
Volume Serial . . .          (If not cataloged)
F1=Help    F2=Split    F3=Exit    F7=Backward  F8=Forward  F9=Swap
F10=Actions F12=Cancel

NUM 13:09:14 IBM-3278-2

```

To copy a file, enter a **c** in the Option ==> field, and the name of the data set to be copied on one of the fields provided for this purpose..

In this example, the user has entered the name of the data set to be copied, 'uf.userid.myfile' in the From Other Partitioned or Sequential Data Set: field. Depending upon the nature of the data set to be copied, the data set name may be entered in either the From Other Partitioned or Sequential Data Set: field, or in the From ISPF Library: fields located in the middle of the panel.

Note

As a general rule, you will only use the ISPF Library: fields to specify a PDS having a name of the form *toplevel.userid.PDSname(member)*. To specify a data set name of any other form (including all non-PDS data sets), you will need to use the From Other Partitioned, Sequential or VSAM Data Set: field. Be sure to include the 'single quotes' as shown in figure 13 (above) when specifying a data set name using the From Other Partitioned, Sequential or VSAM Data Set: field.

After entering in one of the From . . . : fields the name of the data set to be copied, press <Enter>. You will then see the next panel in the Copy/Move Utility, as shown in figure 14, below.

Figure 14. Copy/Move Utility: Copy To...

```

Menu  RefList  Utilities  Help
-----
COPY      From UF.USERID.MYFILE
Command ==>

Specify "To" Data Set Below

To ISPF Library:
Project . .
Group . . .
Type . . .
Member . . .

Replace option:
Enter "/" to select option
Replace like-named members

To Other Partitioned or Sequential Data Set:
Data Set Name . . . 'uf.userid.newFile'
Volume Serial . . . (If not cataloged)

Data Set Password . . (If password protected)

To Data Set Options:
Sequential Disposition      Pack Option      SCLM Setting
1 1. Mod                    3 1. Yes        3 1. SCLM
F1=Help    F2=Split    F3=Exit    F7=Backward  F8=Forward  F9=Swap
F10=Actions F12=Cancel

NUM 12:34:00 IBM-3278-2

```

On this panel, you indicate the name of the destination, or target of the copy operation: the To...: data set. Note, once again, that there are two places where you may enter the data set name on this panel, the To ISPF Library: fields and the To Other Partitioned or Sequential Data Set: fields. The same considerations apply here as were discussed above with regard to the From...: fields; you may enter the name of your To...: data set in either of the places provided, but in order to use the To ISPF Library: fields, the data set name must conform to the "3 levels plus member-name" pattern.

After you have entered the name of the To...: data set in the appropriate field, press Enter.

If the data set you specified on the To...: field already exists (i.e. has already been allocated), you will go straight to back to the Move/Copy Utility panel, with the message Data set copied displayed in the upper-right corner, as shown in figure 16, below.

However, it will often be the case that you will using the Move/Copy utility to create an entirely new copy of an existing data set, and have not previously allocated the new data set. Fortunately, the ISPF Move/Copy utility is very helpful in this matter. If the To...: data set has not previously been allocated, ISPF will offer to do it for you "on the fly." In this case, ISPF will display the Allocate Target Data Set panel, shown in figure 15, below.

Figure 15. Allocate Target Data Set

```

Menu  RefList  Utilities  Help
-----
C      Allocate Target Data Set
C      Command ==>
S      Specified data set UF.USERID.NEWFILE
      does not exist.
T      If you wish to allocate this data set, select one of the options
      below.
      Allocation Options:
      1. Allocate using the attributes of:
        UF.USERID.MYFILE
      2. Specify allocation attributes
T
      Instructions:
      Press ENTER to allocate data set.
      Enter CANCEL or END to cancel allocation.
      F1=Help      F2=Split      F3=Exit      F7=Backward      F8=Forward
      F9=Swap      F12=Cancel
-----
      1 1. Mod      3 1. Yes      3 1. SCLM
      F1=Help      F2=Split      F3=Exit      F7=Backward      F8=Forward      F9=Swap
      F10=Actions  F12=Cancel
NUM 12:48:03 IBM-3278-2

```

You may allocate the new data set using the same attributes as the From...: data set by selecting option 1. Allocate using the attributes of:. Just type a 1, and press Enter. This will take you to the Move/Copy Utility panel, with the message Data set copied displayed in the upper-right corner, as shown in figure 16, below. If you were to select 2 on the above panel, you would go to another panel where you would be allowed to specify different allocation attributes for the target/destination data set.

Figure 16. Data Set Copied

```

Menu  RefList  Utilities  Help
-----
Move/Copy Utility
Data set copied
Option ==> C
More: +
C Copy data set or member(s)      CP Copy and print
M Move data set or member(s)      MP Move and print
L Copy and LMF lock member(s)     LP Copy, LMF lock, and print
P LMF Promote data set or member(s) PP LMF Promote and print

Specify "From" Data Set below, then press Enter key

From ISPF Library:
Project . . .      (--- Options C, CP, L, and LP only ---)
Group . . .      . . .
Type . . .
Member . . .      (Blank or pattern for member list,
                  "*" for all members)

From Other Partitioned or Sequential Data Set:
Data Set Name . . . UF.USERID.MYFILE'
Volume Serial . . .      (If not cataloged)
F1=Help      F2=Split      F3=Exit      F7=Backward      F8=Forward      F9=Swap
F10=Actions  F12=Cancel
NUM 13:05:32 IBM-3278-2

```

Renaming a Data Set

To rename a data set, use the Data Set Utility, panel 3.2 (see figure 8, above). Enter the **r** command at the Option ==> prompt (in place of the a shown in figure 8). Enter the name of the data set to be renamed, in either the ISPF Library: or the Other Partitioned, Sequential or VSAM Data Set: fields, as discussed earlier, and press Enter. ISPF will display the Rename Data Set panel (figure 17, below).

Figure 17. Rename Data Set

```

-                                     Rename Data Set
- Command ==>
0 Data Set Name . . : UF.USERID.MVFILE
  Volume Serial . . : USER94

  Enter new name below: (The data set will be recataloged.)
b
  ISPF Library:
I   Project . .
   Group . . .
   Type . . . .

  Other Partitioned or Sequential Data Set:
0   Data Set Name . . . 'UF.USERID.research'
D
F   F1=Help   F2=Split   F3=Exit   F9=Swap   F12=Cancel
                                     NUM 08:12:46 IBM-3278-2

```

Enter the new name for the data set in either the ISPF Library: or the Other Partitioned or Sequential Data Set: fields, and press <Enter>. In the above example, the new data set name will be UF.USERID.RESEARCH. After you press <Enter>, ISPF will return you to the Data Set Utility panel, showing the new name, and a confirmation message, as shown in figure 18, below.

Figure 18. Data Set Utility panel confirming Rename operation

```

Menu  RefList  Utilities  Help
-----
                                Data Set Utility                                Data set renamed
Option ==> █

    A Allocate new data set                                C Catalog data set
    R Rename entire data set                              U Uncatalog data set
    D Delete entire data set                              S Short data set information
blank Data set information                                U USAM Utilities

ISPF Library:
Project . . .
Group . . .
Type . . .

Other Partitioned, Sequential or USAM Data Set:
Data Set Name . . . 'UF.USERID.RESEARCH'
Volume Serial . . . (If not cataloged, required for option "C")

Data Set Password . . (If password protected)

F1=Help    F2=Split    F3=Exit    F7=Backward  F8=Forward  F9=Swap
F10=Actions F12=Cancel

NUM                                08:23:12 IBM-3278-2

```

Note that the new data set name is displayed in the appropriate field, and the message `Data set renamed` is displayed in the upper-right corner of the screen.

Deleting a Data Set

To delete a data set, use the `Data Set Utility`, panel 3.2 (see figure 8, above). Enter the `d` command at the `Option ==>` prompt (in place of the `a` shown in figure 8). Enter the name of the data set to be deleted, in either the `ISPF Library:` or the `Other Partitioned, Sequential or VSAM Data Set:` fields, as discussed earlier, and press **<Enter>**. ISPF will show a panel displaying information about the data set to be deleted, and asking for confirmation. Press **<Enter>** to confirm the delete operation.

Managing Partitioned Data Sets (PDSs)

ISPF provides a special set of utilities for working with Partitioned Data Sets, which it sometimes refers to as "libraries" due to the way in which they constitute collections of individual "virtual data sets." Actually, in order to be recognized by ISPF as a "library," the PDS name must conform to the "three-levels-plus-membername" pattern laid out in the `ISPF Library:` input fields on this and other panels. However, PDSs with names having more or fewer qualifiers may be managed through the `Library Utility`, by entering the fully-qualified name in 'single quotes' in the `Other Partitioned or Sequential Data Set:` field toward the bottom of the panel.

The `Library Utility` is ISPF panel 3.1. It may be accessed by selecting menu item 3 from the `ISPF Primary Option Menu` panel (refer to figure 1, above). That takes you to the `Utility Selection Panel` (refer to figure 2, above). From the `Utility Selection Panel`, select item 1 `Library` (as usual, you may skip directly to the desired panel by entering the two selections together as `3.1`, from the `ISPF Primary Option Panel`, or as `=3.1` from any other ISPF panel). You will then see the `Library`

Utility display, as shown in figure 19, below.

Figure 19. Library Utility

```

Menu  RefList  Utilities  Help
-----
Option ==> █

Library Utility

blank Display member list      I Data set information      More:  +
C Compress data set           S Short data set information B Browse member
X Print index listing         E Edit member              D Delete member
L Print entire data set       U View member              R Rename member
                              P Print member

Enter "/" to select option
/ Confirm Member Delete

ISPF Library:
Project . . . UF
Group . . . USERID . . . . .
Type . . . WORK
Member . . . (If B, D, E, P, R, U, or blank selected)
New name . . (If R selected)

Other Partitioned or Sequential Data Set:
Data Set Name . . .
Volume Serial . . . (If not cataloged)

F1=Help    F2=Split    F3=Exit    F7=Backward  F8=Forward  F9=Swap
F10=Actions F12=Cancel

NUM 14:33:05 IBM-3278-2

```

An inspection of this panel shows that it may be used to do a variety of tasks relating to PDSs. Often, the easiest way to start is just to enter the name of your PDS in either the ISPF Library: or the Other Partitioned or Sequential Data Set: field, according to the format of the PDS name.

Then press <Enter> to view a list of members in that PDS.

Figure 20. PDS Member List


```

Menu Functions Confirm Utilities Help
-----
LIBRARY          UF.USERID.WORK          Row 00001 of 00005
Command ==>          Scroll ==> PAGE

  Name      Prompt      Size      Created      Changed      ID
- CLASSROL      33      2000/06/01    2000/06/01 14:17:40  USERID
- CONTACTS      22      2000/06/01    2000/06/01 14:12:17  USERID
- FINALEXM      44      2000/06/01    2000/06/01 14:16:18  USERID
- GRANTS        11      2000/06/01    2000/06/01 14:11:35  USERID
- SASJOB        176     2000/06/01    2000/06/01 14:19:37  USERID

**End**

F1=Help    F2=Split    F3=Exit    F5=Rfind    F7=Up    F8=Down    F9=Swap
F10=Left   F11=Right   F12=Cancel

NUM 13:46:13 IBM-3278-2

```

To reach a specific member name in a list, use <<F7>> and <<F8>>, the scroll commands (UP or DOWN) or the LOCATE command. You can select one or more members for processing by entering a command on the command field at the far left of each line. Available commands are:

P	print
R	rename
D	delete
V	view
B	browse
E	edit [For more information, see CNS document D0089, <i>ISPF: Introduction to the ISPF Editor</i> [http://docweb.cns.ufl.edu/docs/d0089/d0089.html].]
M	move
C	copy
G	reset
J	submit
T	TSO command
/	for command prompt pop up window

= repeat - on the desired members or by using the select primary command.

Creating a New Member in a Partitioned Data Set (PDS)

A Partitioned Data Set is a single data set which is subdivided into a small (and limited) number of "virtual data sets" called *members*. For many purposes, you can treat each member of a PDS as if it were a data set unto itself. However, you can also deal with the entire collection (all the members of a PDS) as a single data set. Sometimes PDSs are thought of as analogous to a "hanging file folder"--a file folder which can contain (a few) other folders, and which groups them together for easy management.

PDSs are frequently used as a convenience, such as to group together all of your programs. You can sign on to TSO, list the members of your "program library" PDS, and easily select one to edit or run, without having to remember (and type) the full name of each and every one of your programs. ISPF makes it very easy to work with PDSs in this fashion.

You only have to allocate the PDS itself; you do not have to individually allocate the members you wish to create within the PDS. Once you have allocated a PDS, you can create individual members within it using either the ISPF editor, or FTP.

To create a new member in an existing PDS, start from the ISPF Edit Entry Panel (figure 21, below). This is reached by selecting menu item **2** from the ISPF Primary Option Menu panel (refer to figure 1, above).

Figure 21. Edit Entry Panel

```

Menu  RefList  RefMode  Utilities  LMF  Workstation  Help
-----
                                Edit Entry Panel
Command ==>

ISPF Library:
Project . . . UF
Group . . . USERID . . . . .
Type . . . WORK
Member . . . newmembr      (Blank or pattern for member selection list)

Other Partitioned, Sequential or USAM Data Set:
Data Set Name . . . 
Volume Serial . . .      (If not cataloged)

Workstation File:
File Name . . . . .

Initial Macro . . . . .
Profile Name . . . . .
Format Name . . . . .
Data Set Password . . . . .
F1=Help      F2=Split      F3=Exit
F10=Actions  F12=Cancel

Options
/ Confirm Cancel/Move/Replace
Mixed Mode
Edit on Workstation
Preserve UB record length
F7=Backward  F8=Forward  F9=Swap

NUM                                09:08:22 IBM-3278-2

```


described here.

First, you will often wish to edit the job prior to submitting it. When you have a job open in the ISPF editor, you may submit it for execution simply by typing the command

submit

at the Command ==> prompt, and pressing <Enter>.

Second; if your job is a member of a PDS, you may submit it by typing the **J** command next to the member name in the PDS member list display (figure 20).

Third; you may type the command

tso submit data.set.name

at any ISPF command prompt.

IOF

Once you have submitted a job, you may track its progress, cancel (if desired), and manage its output using IOF, the Interactive Output Facility. You may access IOF via ISPF using the command sequence **N.I** (from the ISPF Primary Option Menu (figure 1)), or **=N.I** from any ISPF command prompt. For more information on IOF, see CNS document D0030, *IOF: The Interactive Output Facility* [<http://docweb.cns.ufl.edu/docs/d0030/d0030.html>].

ISPF Profiles and Associated Data Sets

ISPF profiles allow you to customize your ISPF environment. A temporary ISPF profile data set will be created automatically for you when you log on to TSO, and it will be assigned to the ddname ISPPROF. Since the data set is temporary, ISPF profile values will not be saved between TSO sessions. If you want to save your profile values between sessions, you will have to allocate a permanent ISPF profile data set by entering

%ISPPROF profile.data.set.name

at the TSO READY prompt.

You must specify a valid OS data set name (for example, `UF.userid.ISPFPROF`). The specified data set will be associated with the `ISPPROF` ddname*. If the data set does not exist, it will be created when you use the **%ISPPROF** command. You will have to allocate this data set for each TSO session in which you want to use ISPF, unless you add this command to your `$$$BEGIN file**`.

If you are allocating your profile data set in your own CLIST, make sure that you free the temporary ISPPROF data set before you allocate your permanent data set or that you specify **REUSE** on the **ALLOCATE** command. Also be sure to specify a ddname of ISPPROF.

Note

*A `ddname` is an alias used within a program to refer to a data set. The `ddname` aliases are used within a program to make it easy to change the actual data set(s) used by the program by changing a single line of JCL (the line defining the `ddname`), instead of having to find and change every reference to the data set in the whole program.

Note

**Each user may specify, on the TSO/E LOGON panel, the name of a data set containing a CLIST procedure to be executed automatically each time the userid logs on to TSO. This is used to alter the default TSO environment, or execute certain tasks automatically at log-on. Traditionally, this is a data set member named 'UF.userid.CLIST(\$\$\$\$BEGIN)'. Most users have no need for this type of processing, and consequently, will not have a \$\$\$BEGIN file. If you wish to create a \$\$\$BEGIN file, be sure to use the appropriate high-level qualifier (prefix) associated with your userid (the above example uses the generic "UF" high-level qualifier). You must also remember to enter the name of your \$\$\$BEGIN file in the `COMMAND ==>` panel of the TSO/E LOGON panel. See CNS document D0037, TSO Introduction, for information on the TSO/E LOGON panel.

ISPF and ISPF/PDF Data Sets

Table 1. The following is a list of the ISPF and ISPF/PDF system data sets:

SYS1.ISPLOAD	ISPF and ISPF/PDF modules
SYS1.ISPPLIB	ISPF and ISPF/PDF panels
SYS1.ISPMLIB	ISPF and ISPF/PDF messages
SYS1.ISPSLIB	ISPF and ISPF/PDF skeletons
SYS1.ISPTLIB	ISPF and ISPF/PDF tables
SYS1.ISPCLIB	ISPF and ISPF/PDF CLISTs and EXECs

All of these data sets are allocated automatically. If you wish to change the ISPF allocations, we recommend that you use the **LIBDEF** and **ALTLIB** facilities, rather than changing the ISPF allocations directly.

Unless you are a fairly expert TSO user, you are advised to seek knowledgeable assistance for the task of establishing a permanent ISPF profile, or a \$\$\$BEGIN CLIST. Your department computer support personnel are best equipped to guide you, as they will be familiar with the standard configuration preferred by your office. If you are unable to obtain guidance from local support staff, contact the UF Computing Help Desk (<<http://helpdesk.circa.ufl.edu/>>, <e-mail: helpdesk@ufl.edu [<mailto:helpdesk@ufl.edu>]>, telephone: 392-HELP) for assistance.

Documentation

Extensive online documentation and help facilities are available from within ISPF/PDF. The **CHANGES** option of the Primary Option Menu displays a summary of changes for this release of ISPF/PDF (type **C** in the Primary Option Menu). The **TUTORIAL** option of the

Primary Option Menu displays extensive information about ISPF/PDF in a series of indexed panels. See the IBM ISPF and ISPF/PDF General Information manual for complete information on these enhancements.

The following IBM publications* can be ordered directly from IBM.

- ISPF and ISPF/PDF General Information MVS
- ISPF/PDF Services
- ISPF/PDF Edit and Edit Macros Manual
- ISPF/PDF Guide

Note

*The exact titles of these manuals are subject to change; however your IBM representative should be able to identify for you the current version of each of these documents.

Refer to the IBM manuals listed in the *General Information: CNS Software and Software References* manual (DOCID D0009) [<http://docweb.cns.ufl.edu/docs/d0009/d0009.html>] for detailed programming information on ISPF.

Disclaimer

The ISPF and ISPF/PDF products in TSO are provided "as distributed by IBM." Many of the Foreground and Background options will not function at CNS, either because we do not have the associated language installed or because IBM has designed the options for a different environment. These options and their associated CLISTs (in `SYS1.ISPCLIB`) are being provided "as is" to be used as a guide for developing your own ISPF applications. Also, the National Language Support (NLS) and Library Management Facility (LMF) are not available at CNS.

Your Comments are Welcome

We welcome your comments and suggestions on this and all CNS documentation. Please send your comments to:

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